REMARKS/ARGUMENTS

The Pending Claims

Claims 1-21 are pending. Claims 1-17 are directed toward a polishing pad comprising a porous polymeric material, wherein the porous polymeric material has a negative Poisson's ratio. Claims 18-21 are directed toward a method of polishing with the aforementioned polishing pad. Reconsideration of the claims is respectfully requested.

Summary of the Office Action

Claims 1-21 stand rejected under 35 U.S.C. § 103(a) as obvious over Reinhardt (i.e., U.S. Patent 6,095,902) in combination with the BASF publication entitled Elastollan – Material Properties, alone or in further combination with Shiro et al. (i.e., U.S. Patent 6,705,934), Sevilla et al. (i.e., U.S. Patent 6,126,532), Suzuki et al. (i.e., U.S. Patent 6,120,353), Osterheld et al. (i.e., U.S. Patent 6,241,596), and Tang (i.e., U.S. Patent 5,949,927).

Summary of Examiner Interview

Applicants thank Examiners Muller and Hail for the courtesies extended to applicants' undersigned agent Caryn Borg-Breen, during the telephonic interview of May 23, 2005. The obviousness rejections were discussed, consistent with the remarks set forth herein.

Response to the Obviousness Rejections

Applicants respectfully traverse the obviousness rejections of claims 1-21 because the cited references fail to teach or suggest a polishing pad comprising a porous polymeric material having a Poisson's ratio less than 0.

Although the values obtained from the cited MatWeb website (www.matweb.com) for modulus of elasticity (E) and shear modulus (G) when plugged into the formula $E = 2G(1 + v)$ produce a value for the Poisson's ratio (v) that is negative, the cited BASF material nevertheless is not a porous polymeric material having a negative Poisson's material as recited by the pending claims. The stress-strain diagrams included in the cited BASF publication demonstrate that the Elastollan C 64 D material is not a negative Poisson's ratio material as recited by the pending claims. As discussed in the accompanying Declaration under 37 C.F.R. § 1.132 of Abaneshwar Prasad, the stress-strain curve for Elastollan C 64 D provided in Fig. 20 of the BASF publication clearly illustrates that the Elastollan C 64 D material is a conventional polymeric material having a positive Poisson's ratio. As such, the combination of the Elastollan C-64D polymer from the BASF publication and polishing pad from Rheinhart does not yield the invention described in the pending claims. Shiro et al.,

Sevilla et al., Suzuki et al., Osterheld et al., or Tang alone or in combination also fail to teach or disclose a polishing pad comprising a porous polymeric material with a negative Poisson's ratio, and thus do not cure the deficiencies of Reinhardt and the BASF publication.

Moreover, as set forth in the accompanying Declaration of Abaneshwar Prasad, porous polymeric foams having a negative Poisson's ratio are very uncommon. Unlike conventional polymeric foams which contract laterally when stretched, a polymeric foam having a negative Poisson's ratio *expands* laterally when stretched. To date, the only published method for preparing a polymeric foam having a negative Poisson's ratio is to subject a conventional polymeric foam (having a positive Poisson's ratio) to triaxial compression combined with heating in a mold to a temperature slightly above the softening temperature of the polymeric foam. Nothing in the BASF publication suggests that the Elastollan C 64 D material has been specially treated so as to convert it from a conventional (positive Poisson's ratio) material to a negative Poisson's ratio material.

Furthermore, the values obtained from the MatWeb website cited in the Office Action are unreliable insofar as the website provides no information whatsoever regarding what method (e.g., ASTM, ISO, or other) was used to obtain the values for either the Modulus of Elasticity or the Shear Modulus. As discussed in the accompanying Declaration of Abaneshwar Prasad, the details of the method used to determine a particular modulus of elasticity are critical because there are many variables that can be manipulated so as to dramatically affect the outcome of the test. While the formula described in the instant specification is always true, the values derived from the formula are only as good as the values put into the formula. Here there is no corroborating evidence to support that the MatWeb website values are accurate or obtained under comparable conditions and samples.

In view of the foregoing, the subject matter of claims 1-21 cannot properly be considered obvious in view of the cited references. Accordingly, Applicants respectfully request that the obviousness rejections be withdrawn

Conclusion

If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,

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